

# ICF international / Laboratory Data Consultants

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# **MEMORANDUM**

TO:

Chris Lichens, Remedial Project Manager

Site Cleanup Section 4, SFD-7-4

THROUGH:

Rose Fong, ESAT Task Order Manager (TOM)

Quality Assurance (QA) Program, MTS-3

FROM:

Doug Lindelof, Data Review Task Manager

Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041

Technical Direction Form No.: 00105077 Amendment 3

DATE:

September 14, 2007

SUBJECT:

Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:

Omega Chem OU2

Site Account No.:

09 BC LA02

CERCLIS ID NO.:

CAD042245001

Case No.:

36520

SDG No.:

Y3CN1

Laboratory:

Shealy Environmental Services, Inc. (SHEALY)

Analysis:

Trace Volatiles

Samples:

20 Groundwater Samples (see Case Summary)

Collection Date:

July 18, 19, 20, and 23, 2007

Reviewer:

Kendra DeSantolo, ESAT/Laboratory Data Consultants

RF

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc:

Cynthia Hurley, CLP PO USEPA Region 4

Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention

[X] Action

SAMPLING ISSUES: [X] Yes

[ ] No

# **Data Validation Report**

Case No.: 36520 SDG No.: Y3CN1

Site: Omega Chem OU2

Laboratory: Shealy Environmental Services, Inc. Reviewer: Kendra DeSantolo, ESAT/LDC

Date: September 14, 2007

# I. CASE SUMMARY

**Sample Information** 

Samples: Y3CN1 through Y3CN9 and Y3CP0 through Y3CQ0

Concentration and Matrix: Low/Medium Concentration Water

Analysis: Trace Volatiles

SOW: SOM01.1 and Modification Reference No. 1363.2

Collection Date: July 18, 19, 20, and 23, 2007 Sample Receipt Date: July 19, 20, 21, and 24, 2007

Extraction Date: Not Applicable

Analysis Date: July 24 through 27, 2007

Field QC

Field Blanks (FB): Y3CN5, Y3NP1, Y3CP6, and Y3CQ2 (in SDG

Y3CQ1).

Equipment Blanks (EB): Not provided

Trip Blank (TB): Not provided Background Samples (BG): Not provided

Field Duplicates (D1): Y3CP9 and Y3CQ0

Laboratory QC

Method Blanks & Associated Samples:

VBLK24: Y3CN5

VBLK2X: Y3CN6, Y3CN7, Y3CP0 through Y3CP4, Y3CP7

through Y3CQ0

VBLK25: Y3CN6RE, Y3CN7RE, Y3CP0RE through Y3CP4RE,

Y3CP7RE through Y3CQ0RE, Y3CN1 through

Y3CN3, Y3CN8, Y3CP5, Y3CP6

VBLK26: Y3CN1DL, Y3CN2DL, Ý3CN3DL, Y3CN3DL2,

Y3CN4, Y3CN4DL, Y3CN8DL, Y3CN9, Y3CN9DL

VBLK1D: Y3CP5DL, storage blank VHBLK32

Tables

1A: Analytical Results with Qualifications

1B: Data Qualifier Definitions for Organic Data Review

2: Calibration Summary

# **CLP PO Action**

Nondetected results for 1,4-dioxane in samples Y3CN1, Y3CN5 through Y3CN7, and Y3CP0 through Y3CQ0; all method blanks; and storage blank VHBLK32 are qualified as rejected (R) due to very low relative response factors (RRFs <0.01) in initial and continuing calibrations (see Comment A).

# CLP PO Attention

- 1. Detected results for some analytes are qualified as nondetected and estimated (U,J) due to method blank and storage blank contamination (see Comment C).
- 2. Results for some analytes are qualified as estimated (J) due to calibration problems (see Comment D).
- 3. Results for some analytes are qualified as estimated (J) due to deuterated monitoring compound (DMC) recovery problems (see Comment E).
- 4. Detected results for trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, chloroform, trichloroethene, and tetrachloroethene in sample Y34L2 are qualified as estimated (J) due to concentrations exceeding calibration range (see Comment F).

# Sampling Issues

The sampler signature is missing on traffic report & chain of custody records (TR/COCs) for samples collected on 07/18/07 through 07/20/07 (see attached TR/COCs, pp. 5 through 7 in data package).

# Additional Comments

The ending CCV for 07/25/07 was not analyzed due to an instrument malfunction. The CCV analyzed on 07/26/07 06:07 was used as the 07/25/07 ending CCV for data qualification.

For sample Y3CN4, there were large discrepancies between results for the 5-fold dilution and 50-fold dilution. The SDG Narrative (attached) indicated that there may be "a one-time instrument malfunction that extra volume of the internal standard spiking solution was added" to the 50-fold diluted analysis. Only results for the 5-fold dilution are reported in Table 1A.

All surrogates did not pass acceptance limits in the method blank VBLK2X analyzed on 07/24/07 (see Comment E). The associated samples were reanalyzed the following day and both sets of data were included in the data package. Results for first analyses (on 07/24/07) were reviewed and reported in Table 1A since both sets of data are very similar.

Other than laboratory artifacts (approximate retention times of 2.4, 4.3, 5.8, 9.2, 11.6, 12.2-13.0, 13.4, 14.1, 15.0, 15.3, and 15.9 minutes), tentatively identified compounds (TICs) were found in samples Y3CN4 and Y3CN9 (see attached Form 1Js).

The laboratory performed manual integrations on calibrations due to incorrect auto integration. Manual integrations were reviewed and found to be satisfactory and in compliance with proper integration techniques.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, Guidelines for Data Review of Contract Laboratory Program Analytical Services Volatile and Semivolatile Data Packages;
- USEPA Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration, SOM01.1, May 2005; and
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2005.

# II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	<u>Acceptable</u>	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	No	A, D
4.	Continuing Calibration	No	A, D
5.	Laboratory Blanks	No	C
6.	Field Blanks	Yes	
7.	Deuterated Monitoring Compounds	No	$\mathbf{E}_{-}$
8.	Matrix Spike/Matrix Spike Duplicates	N/A	
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	Yes	
11.	Compound Identification	Yes	
12.	Compound Quantitation	Yes	B, F, G, H
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	Yes	

N/A = Not Applicable

# III. VALIDITY AND COMMENTS

- A. Nondetected results for the following analyte are qualified as rejected due to very low RRFs in initial and continuing calibrations and are flagged "R" in Table 1A.
  - 1,4-Dioxane in samples Y3CN1, Y3CN5 through Y3CN7, and Y3CP0 through Y3CQ0; all method blanks; and storage blank VHBLK32

RRFs below 0.01 were reported for 1,4-dioxane in initial and continuing calibrations (see Table 2). Since results are nondetected, false negatives may exist.

DMC 1,4-dioxane-d8 also had RRFs below 0.01 in initial and continuing calibrations (see Table 2).

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

- B. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.
  - All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

- C. The following results are qualified as nondetected and estimated due to method blank and storage blank contamination and are flagged "U,J" in Table 1A.
  - 1,1-Dichloroethene in samples Y3CN5, Y3CP0 through Y3CP4, Y3CP6, Y3CP7, and storage blank VHBLK32
  - Methylene chloride in all samples and storage blank VHBLK32
  - Chloroform in samples Y3CN1 through Y3CN3, Y3CN7, Y3CN8, Y3CP1, Y3CP3 through Y3CP5, Y3CP7, and Y3CP8

Methylene chloride and 1,1-dichloroethene were found in method blanks VBLK24, VBLK2X, VBLK25, VBLK26, and VBLK1D and chloroform was found in method blank VBLK1D and storage blank VHBLK32 (see Table 1A for concentrations). Results for the samples listed above are considered nondetected and estimated (U,J) and quantitation limits have been raised according to the blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result and reported as nondetected. If the sample result is less than the CRQL, the result is reported as nondetected at the CRQL.

Chloroform results for samples Y3CN4 (140  $\mu$ g/L), Y3CN9 (19  $\mu$ g/L), Y3CP9 (6.4  $\mu$ g/L), and Y3CQ0 (6.0  $\mu$ g/L) and 1,1-dichloroethene results for samples Y3CN1 (24  $\mu$ g/L), Y3CN2 (220  $\mu$ g/L), Y3CN3 (7.0  $\mu$ g/L), Y3CN4 (580  $\mu$ g/L), Y3CN6 (0.93  $\mu$ g/L), Y3CN7 (5.7  $\mu$ g/L), Y3CN8 (17  $\mu$ g/L), Y3CN9 (230  $\mu$ g/L), Y3CP5 (14  $\mu$ g/L), Y3CP8 (1.2  $\mu$ g/L), Y3CP9 (1.8  $\mu$ g/L), and Y3CQ0 (1.9  $\mu$ g/L) are not qualified as nondetected and estimated since their concentrations exceed 5 times the amount in the associated method blanks.

A laboratory method blank is laboratory reagent water or baked sand analyzed with all reagents, deuterated monitoring compounds, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

A storage blank is laboratory reagent water stored in a vial in the same area as the field samples. The storage blank is used to determine the level of contamination introduced by the laboratory during sample storage prior to analysis.

- D. Results for the following analytes are qualified as estimated due to low RRFs in initial and continuing calibrations and are flagged "J" in Table 1A.
  - 1,4-Dioxane in samples Y3CN2 through Y3CN4, Y3CN8, and Y3CN9
  - Acetone in all samples, method blanks, and storage blank VHBLK32
  - 1,2-dibromo-3-chloropropane in method blank VBLK1D and storage blank VHBLK32

RRFs below 0.01 were reported for 1,4-dioxane in initial and continuing calibrations (see Table 2). An average RRF of 0.049 was reported for acetone in the initial calibration; RRFs were below the 0.05 validation criterion for acetone and 1,2-dibromo-3-chloropropane in continuing calibrations (see Table 2).

Detected results for the analytes listed above may be biased low and should be considered as the minimum concentrations at which these analytes are present in the samples. Where results are nondetected, false negatives may exist.

The initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear calibration curve.

The continuing calibration checks the instrument performance daily and produces the relative response factors (RRFs) for target analytes that are used for quantitation.

- E. Results for the following analytes are qualified as estimated due to DMC recoveries outside QC limits and are flagged "J" in Table 1A.
  - {1,1-Dichloroethene-d2}
  - trans-1,2-Dichloroethene and cis-1,2-dichloroethene in samples Y3CN1 through Y3CN4, Y3CN9
  - cis-1,2-dichloroethene in sample Y3CN7, Y3CN8 and Y3CP5

# {Chloroform-d}

• 1,1-Dichloroethane in sample Y3CN2

• 1,1-Dichloroethane and chloroform in sample Y3CN4

DMC recoveries outside QC limits are shown below.

Sample	<u>DMC</u>	% Recovery	QC Limits
Y3CN1DL	1,1-Dichloroethene-d2	115	55-104
Y3CN1	1,1-Dichloroethene-d2	310	55-104
Y3CN2	1,1-Dichloroethene-d2	2433	55-104
Y3CN2DL	1,1-Dichloroethene-d2	134	55-104
Y3CN3	1,1-Dichloroethene-d2	129	55-104
Y3CN4	1,1-Dichloroethene-d2	744	55-104
Y3CN7	1,1-Dichloroethene-d2	125	55-104
Y3CN8	1,1-Dichloroethene-d2	184	55-104
Y3CN8DL	1,1-Dichloroethene-d2	109	55-104
Y3CN9	1,1-Dichloroethene-d2	720	55-104
Y3CN9DL	1,1-Dichloroethene-d2	157	55-104
Y3CP5	1,1-Dichloroethene-d2	169	55-104
VBLK2X	2-Butanone-d5	162	49-155
Y3CN1DL	Chloroform-d	122	78-121
Y3CN2DL	Chloroform-d	122	78-121
Y3CN4	Chloroform-d	137	78-121
Y3CP7	Chloroform-d	122	78-121

Qualified results may be biased high. For DMC recoveries that exceeded QC limits, only detected results for associated analytes are qualified. The recovery for DMC chloroform-d in sample Y3CP7 exceeded QC limit but associated sample results were not qualified because they were nondetects. The samples were not reanalyzed.

Surrogates (e.g., deuterated monitoring compounds (DMCs)) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

- F. Detected results for the following analytes are qualified as estimated due to concentrations exceeding the calibration range and are flagged "J" in Table 1A.
  - Trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoromethane, chloroform, trichloroethene, and tetrachloroethene in sample Y3CN4

Concentrations of trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoromethane, chloroform, trichloroethene, and tetrachloroethene in the undiluted analysis of sample Y3CN4 were 210  $\mu$ g/L, 580  $\mu$ g/L, 530  $\mu$ g/L, 140  $\mu$ g/L, 400  $\mu$ g/L, and 1000  $\mu$ g/L, respectively. These values exceed the 0.5-20  $\mu$ g/L calibration

range. The laboratory reanalyzed sample Y3CN4 at a 50-fold dilution, but results differ widely from the undiluted results and are not reported in Table 1A (see Additional Comments section above).

Results reported in Table 1A for these analytes are from the undiluted analysis. These concentrations are considered to be qualitatively acceptable but quantitatively questionable and should be considered as the minimum concentrations at which the analytes are present in the sample.

G. Sample Y3CN1 was reanalyzed at a 10-fold dilution due to high levels of trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoromethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes in sample Y3CN1 are reported from the diluted analysis in Table 1A; results for other analytes are reported from the undiluted analysis.

Sample Y3CN2 was reanalyzed at a 40-fold dilution due to high levels of 1,1-dichloroethene, 1,1-dichloroethane, cis-1,2-dichloroethene, 1,1,1-trichloroethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes in sample Y3CN2 are reported from the diluted analyses in Table 1A; results for other analytes are reported from the undiluted analysis.

Sample Y3CN3 was reanalyzed at 2-fold and 20-fold dilutions, due to a high level of tetrachloroethene that exceeded the calibration range. The result for tetrachloroethene in sample Y3CN3 is reported from the 20-fold diluted analysis in Table 1A; results for other analytes are reported from the undiluted analysis.

Sample Y3CN8 was reanalyzed at a 5-fold dilution due to high levels of trichloroethene and tetrachloroethene that exceeded the calibration range. Results for trichloroethene and tetrachloroethene in sample Y3CN8 are reported from the diluted analysis in Table 1A; results for other analytes are reported from the undiluted analysis.

Sample Y3CN9 was reanalyzed at a 20-fold dilution due to high levels of trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoromethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes in sample Y3CN9 are reported from the 20-fold diluted analysis in Table 1A; results for other analytes are reported from the 2-fold diluted analysis.

Sample Y3CP5 was reanalyzed at a 5-fold dilution due to high levels of 1,1,2-trichloro-1,2,2-trifluoromethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes in sample Y3CP5 are reported from the diluted analysis in Table 1A; results for other analytes are reported from the undiluted analysis.

H. Samples Y3CN4 and Y3CN9 were analyzed at 5- and 2-fold dilutions, respectively, due high levels of target analytes. The CRQLs listed for these samples in Table 1A have been multiplied by the dilution factor.

ANALYTICAL RESULTS

Table 1A

SDG No.: Y3CN1

Case No.: 36520

Site: Omega Chem OU2

Lab: Shealy Environmental Services, Inc. Reviewer: Kendra DeSantolo, ESAT/LDC

QUALIFIED DATA

Analysis Type:

Trace Level Water Samples

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for Trace Volatiles	Y3CN6	Y3CN6	7/19/2007	Result	0.50U	0.500	0.50U	0.50U	0.50U	0.50U	0.93	0.500	5.00	0.500	0.500	0.50U	0.50U	0.50U	0.21L	5.6	5.00	0.500	0.500	0.50U	0.50U	0.50U	0.500	0.50U	20U	2.9
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·	Y3CN5	Y3CN5	7/18/2007	Result	0.500	0.500	0.50U	0.50U	0.50U	0.50U	0.500	0.50U	5.0U	0.500	0.500	0.56U	0.50U	0.50∪	0.50U	0.50U	5.00	0.500	0.50U	0.500	0.50U	0.50U	0.50U	0.500	20U	0,50U
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	Y3CN4	Y3CN4	7/18/2007 5.0	Result	2.5U	2.5U	2.5U	2.5U	2.5U	210	580	530	25U	2.5U	2.5U	2.50	2.3L	1.9L	3.2	- E	250	2.50	140	2.5U	2.5U	2.5U	0.53L	19	82L	400
n ug/L				Com	М	178		liikii		8		117875	۵			ပ	BE	æ		Ш		118	ပ			(590T [117])			BD	
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Concentration in ug/L	Y3CN3	Y3CN3	7/18/2007	Result	0.45L	0.50U	0.500	0.500	0.500	0.29L	7.0	0.54	5.00	0.50	0.500	0.500	0.065L	0.13L	0.74	2.2	5.00	0.50U	1.3U	0.500	0.50U	0.500	0.500	0.50U	141	15
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	Y3CN2	Y3CN2	7/18/2007	Result	0.500	0.500	0.58	0.500	0.20L	4.5	220	15	1.7L	0.50U	0.50U	0.500	2.2	0.58	120	230	5.00	0.500	2.6U	17	0.13L	0.50	0.20L	17	100	100
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9/14/07	Y3CN1	Y3CN1	7/18/2007	Result	0.50U	0.500	0.500	0.50U	0.500	18	24	41	5.00	0.500	0.500	0.50	0.13L	0.50	1.0	5.5	2.0∪	0.50U	1.40	97.0	0.50U	0.42L	0.074L	0.500	20O	110
Date: 09/14/07	Station Location :	Sample ID :	Collection Date :	. —		Chloromethane	Vinyl chloride	Bromomethane	Chloroethane	Trichlorofluoromethane	,1-Dichloroethene	,1,2-Trichloro-1,2,2-trifluoroethane	Acetone	Carbon Disulfide	Methyl acetate	Wethylene chloride	rans-1,2-Dichloroethene	Wethyl tert-butyl ether	,1-Dichloroethane	cis-1,2-Dichloroethene	2-Butanone	Bromochloromethane	Chloroform	1,1,1-Trichloroethane	Cyclohexane	Carbon tetrachloride	Benzene	,2-Dichloroethane	,4-Dioxane	Trichloroethene

Case No.: 36520

SDG No.: Y3CN1

Site: Omega Chem OU2

Lab: Shealy Environmental Services, Inc.

Reviewer: Kendra DeSantolo, ESAT/LDC

Date: 09/14/07

Concentration in ug/L QUALIFIED DATA

Analysis Type:

Trace Level Water Samples

for Trace Volatiles

Station Location : Sample ID :			<del>کر ک</del>	Y3CN2			Y3CN3			Y3CN4			Y3CN5 Y3CN5		FB	Y3CN6 Y3CN6		
Sample ID :			~	3CN2			Y3CN3		•	Y3CN4			Y3CN5		B	Y3CN6		
	-		_	1						•								
Collection Date :	7/18/2007		7.	7/18/2007			7/18/2007			7/18/2007			7/18/2007			7/19/2007		
Dilution Factor :	1.0			1.0			1.0			5.0			1.0			1.0		
Trace Volatiles	Result	Val C	Com R	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Methylcyclohexane	0.50∪			0.50∪			0.50U			2.5U			0.50∪			0.50U		
1,2-Dichloropropane	0.50U			0.50U			0.50U		211	2.5U		1000	0.50U			0.50U	9(6))) (6)))	
Bromodichloromethane	0.50U			0.50∪			0.50U			2.5U			0.50U			0.50U		
cis-1,3-Dichloropropene	0.50U			0.50∪		ji Infal	0.50U	eliğ.	3141	2.50		ч	0.50∪			0.50U		1157 11125
4-Methyl-2-pentanone	5.00			5.0U			5.00			25U			5.0U			5.0U		
Toluene	0.50U			0.079L	٤	В	0.50U	(J. 19)		2.50			0.50U	94	UTION OF THE PROPERTY OF THE P	0.50∪		
trans-1,3-Dichloropropene	0.50U			0.50U			0.50U			2.5U			1.3			0.50U		CANTING CONTRACTOR
1,1,2-Trichloroethane	1.2	rii: Miri Mali		5.6	1000 1000 2000	in in it	3.3						0.50∪			0.50U		
Tetrachloroethene	80.		ര	290		G	210		G	1000	د	т	0.50∪			0.26L	ر	В
2-Hexanone	5.00			5.0U	101		5.0U	mi		250		444 1111	5.00		219	5.00		
Dibromochloromethane	0.50U			0.50U			0.50U			2.50			0.50∪			0.50U		
1,2-Dibromoethane	0.50U	1004 1717		0.50∪			0.50U	iliji)		2.50	er Orbo Morn		0.50U	i i	rario Sil	0.50∪		
Chlorobenzene	0.50U			0.19L	ے	В	0.070L	ے	В	2.5U			0.50∪			0.50U		
Ethylbenzene	0.50U			0.50U			0.50U	auli L	90 96)	2.50	82 (II)		0.50∪	i de la companya de	0.00	0.50U		
o-Xylene	0.50U			0.50U			0.50∪			2.5U			0.50∪			0.50U		Total Control of the
m,p-Xylene	0.50U		Will.	0.50∪		11150	0.50U	and	las	2.5U			0.50⊔	ihi		0.50∪	400	10.12
Styrene	0.50U			0.50∪			0.50∪			2.5U			0.50U			0.50U		
Bromoform	0.500			0.50U	li.		0.50U	niini		2.50			0.50U			0.50U		
Isopropylbenzene	0.50U			0.50U			0.50∪			2.5U			0.50∪			0.50U		
1,1,2,2-Tetrachloroethane	0.50U		A POPULATION OF THE POPULATION	0.50U	42 (42)	92A	0.50U		n is	2.5U		Pido	0.50U			0.50U	(1872) (2014)	
1,3-Dichlorobenzene	0.50U			0.50∪			0.50U			2.5U			0.50∪			0.50U		
1,4-Dichlorobenzene	0.50U			0.50U	pile		0.50U	h		2.50		. 1945   [1] [1]	0.50U			0.50U	1111	
1,2-Dichlorobenzene	0.50U			0.070L	J	В	0.43L	ل	В	2.5U			0.50∪			0.50U		
1,2-Dibromo-3-chloropropane	0.50U		1150	0.50∪		aguni egan	0.50U	in di Mali		2.5U		10 11	0.50U		es) Hali	0.50U	irgzi	
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50U			2.5U	1000		0.50∪	-		0.50U		
1,2,3-Trichlorobenzene	0.50U	its (	9510	0.50U			0.50U			2.5U			0.50U	Mail:		0.50U	描	-194 (5 1617)(3 1616)(6

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL - Contract Required Quantitation Llmit

N/A - Not Applicable

NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs

FB - Field Blank, EB - Equipment Blank,

TB - Trip Blank, BG - Background Sample

# ANALYTICAL RESULTS

Table 1A

SDG No.: Y3CN1

Site: Omega Chem OU2

Lab: Shealy Environmental Services, Inc. Reviewer: Kendra DeSantolo, ESAT/LDC

Case No.: 36520

Date: 09/14/07

Concentration in ug/L QUALIFIED DATA

Analysis Type:

Trace Level Water Samples for Trace Volatiles

Station   Society	V2CN7		r	V3CNB	l	ľ	V3CNO			V3CP0			Y3CP1			Y3CP2		
Sample Incomplete	VaCN7			V3CNR			Vacing			V3CP0			Y3CP1		FB	Y3CP2		
Cample ID	7.5CIN /			740/00/2			7/10/0007			7/10/2007			7/19/2007		) -	7000/00/7		
Collection Date : Dilution Factor :	1.0			1.002/01/1			2.0			1.0			1.0			1.0		
Trace Volatiles	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Com Result	Val	Com
Dichlorodifluoromethane	0.38L	٦	В	0.50U			1.7			0.50U			0.50U			0.50U		
Chloromethane	0.50U		91111 11111	0.500			1.00		¥39	0.50U			0.50U			0.50U		
Vinyl chloride	0.500	a compression of the compression		0.500			1.00			0.500			0.500			0.50U		
Bromomethane	0.500			0.500	. Ti		1.0U			0.50U	ille Pal		0.50			0.50U		
Chloroethane	0.500			0.500			1.0U			0.50U			0.50U	or Many or other Paper		0.50U		COMPANIES OF THE PERSON NAMED IN
Trichlorofluoromethane	1.2			6.1			120		g	0.500	10	ter Halik Militar	0.50U			0.50U	esal Gib	
1,1-Dichloroethene	5.7			17			230		ტ	0.50U	7	ပ	0.500	ſ	ပ	0.50U	7	ပ
1,1,2-Trichloro-1,2,2-frifluoroethane	2.7	517		13			330		Ø	0.50	ole	e Lp	0.50U	Distr.		0.500	534	
Acetone	5.00	7	Ω	5.0U	٦	٥	100	ה	۵	5.00	7	Δ	5.00	ר	Ω	5.00	7	۵
Carbon Disulfide	0.500			0.50U			1.00	411171 24161		0.50U		1000 1400	0.50U	11215	e e sonic Se sonic	0.50U	jil eks	1111
Methyl acetate	0.500			0.500			1.00			0.500	-		0.50U			0.50U		
Methylene chloride	0.50U	٦,	ပ	0.50U	n e	ပ	1.0U	7	ပ	0.50		ပ	0.500	-5°	ပ	0.50U	) 	ပ
trans-1,2-Dichloroethene	0.50U			0.50U			0.62L	7	BE	0.500			0.500	:		0.50U		
Methyl tert-butyl ether	0.081∟	<b>-</b>	В	0.19L	P	В	0.53L	177	В	0.50U			0.50U	100		0.50U		
1,1-Dichloroethane	4.1			3.6			0.71L	r	മ	0.500			0.500	The state of the s		0.500		Chillips Constitution of the Constitution of t
cis-1,2-Dichloroethene	99.0	an P	ш	17	ŗ	Ш	0.47L	-	BE	0.50∪		ili.	0.50U			0.50U		en e
2-Butanone	5.00			5.0U			10C			2.0∪			5.0U			5.00	SI-CONTRACTOR OF THE PERSON NAMED IN COLUMN NA	
Bromochloromethane	0.500	11117		0.50U		giori Villa	1.00			0.50U			0.50U	50) 2015	1115	0.500		41
Chloroform	0.73U	7	ပ	0.88U	ſ	ပ	19			0.500			0.50U	ſ	ပ	0.50U		
1,1,1-Trichloroethane	0.50U			0.50U		nker 1945 1961	0.19L	10111 134	В	0.50U			0.500	17		0.500	######################################	
Cyclohexane	0.50∪			0.500			1.00			0.50U			0.50U		DVMCOn-CO-INDICOTORY	0.50U		
Carbon tetrachloride	0.13L	7	8	0.25L	7	В	1.00		ud.	0.50U		esidi aada mijik	0:200			0.50U		
Benzene	0.500			0.072L		<u>.</u>	1.0∪	_		0.50U			0.50U			0.052L	<u>ر</u>	В
1,2-Dichloroethane	1.8			0.50U			2.8		E io	0.50			0.50U	irdi Dhii	250 510	0.50U	i i	
1,4-Dioxane	200	œ	∢	7.7L	7	BD	16L	7	品	20U	œ	٧	20U	ద	¥	200	œ	ĸ
Trichloroethene	19			37		ტ	48		ග	0.50U	11111111111111111111111111111111111111	, in	0.50U		425 641	0.50U		

Case No.: 36520

Date: 09/14/07

SDG No.: Y3CN1

Table 1A

Site: Omega Chem OU2
Lab: Shealy Environmental Services, Inc.
Reviewer: Kendra DeSantolo, ESAT/LDC

nalysis Type :

Trace Level Water Samples for Trace Volatiles

Concentration in ug/L	QUALIFIED DATA
	Ą

Station Location :	Y3CN7		Y3CN8		~	Y3CN9			Y3CP0		7	Y3CP1			Y3CP2		
Sample ID :	Y3CN7		Y3CN8		≾	Y3CN9		_	Y3CP0		≾	Y3CP1		FB	Y3CP2		
Collection Date :	7/19/2007		7/19/2007	7	7/	7/19/2007		7	7/19/2007		7/	7/19/2007			7/20/2007		
Dilution Factor:	1.0		1.0			2.0			1.0			1.0			1.0		
Trace Volatiles	Result	Val C	Com Result	Val C	Com Re	Result	Val	Com Result	esult	Val Com		Result	Val	Com	Result	Val	Com
Methylcyclohexane	0.50U		0.50U			1.0U			0.50U			0.50U			0.500		
1,2-Dichloropropane	0.50U		0.50∪		urani Majar	1.00			0.50U			0.50U	enite e e e		0.50U		ayr.
Bromodichloromethane	0.50∪		0.50U			1.0U	•		0.50∪			0.50U			0.50U		
cis-1,3-Dichloropropene	0:50∪		0.50U			1.00		(1605 (366)	0.50∪	riiga Pari	alliji Hillio	0.50U			0.50U		
4-Methyi-2-pentanone	5.0U		5.00			<u>1</u>			5.0U			5.00			5.00		
Toluene	0.50∪		0.50U			1.0U			0.50U		Joliffic Julies	0.50U		uniti	- 0.50U		
trans-1,3-Dichloropropene	0.50U		0.50U			1.00			0.50U			0.50U			0.50∪		
1,1,2-Trichloroethane	0.18L		В 0.371	ے.	σ	3.3	9456		0.50U			0.50U		luit.	0.50U	iles ries	
Tetrachloroethene	16		28		ଦ	370		ດ	0.29L	<u>с</u> В	ω	0.50U			0.50U		
2-Hexanone	5.00		5.00			100			5.00	em sa abi	915621 <b>216</b> 121	5.00			5.0U	dibid:	
Dibromochloromethane	0.50∪		0.50U			1.0U			0.50U			0.50U			0.50U		
1,2-Dibromoethane	0.50U		0.50U			1.00		(5)(1) (2)(4)	0.50∪		Opt 1	0.50U			0.50U		anilio Janilio
Chlorobenzene	0.50U		0.50U			1.0U			0.50U			0.50U			0.50U		
Ethylbenzene	0.50U		0.50U			1.00			0.50U		atte Mari	0.50U			0.50U		arii Arii
o-Xylene	0.50∪		0.50U			1.00			0.50U			0.50U			0.50U		
m,p-Xylene	0.50∪		0.50U			1.00			0.50U	erië US		0.50U			0.50U		
Styrene	0.50U		0.50U			1.0U			0.50U			0.50U			0.50U		
Bromoform	0.50U		0.500			1.00		oleli Tipir	0.50∪			0.50U			0.50U		
Isopropylbenzene	0.50∪		0.50U			1.00			0.50U			0.50U		-	0.50∪		
1,1,2,2-Tetrachloroethane	0.50U		0.50U			1.00			0.50U			0.50U			0.50U		alli
1,3-Dichlorobenzene	0.50U		0.50U			1.00			0.50U			0.50∪			0.50U		
1,4-Dichlorobenzene	0.50U		0.50U	figi		1.0U			0.50U		iulija Pari	0.50∪			0.50U	afiatin Sum	
1,2-Dichlorobenzene	0.50U		0.50U			1.0U			0.50U			0.50U		-	0.50∪		
1,2-Dibromo-3-chloropropane	0.50U	1000 1000 1000 1000 1000 1000 1000 100	0.50U	14.3 16.2		1.00		Page (graf)	0.50∪			0.50U			0.50U		
1,2,4-Trichlorobenzene	0.50U		0.50U			1.00			0.50U			0.50U			0.50U		
1,2,3-Trichlorobenzene	0.50U		0.50U			1.0U	à M	Τ	0.50U	uiti Vie		0.50U			0.50U		Ejski

Val - Validity Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL - Contract Required Quantitation Llmit

N/A - Not Applicable NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs

FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS Table 1A

SDG No.: Y3CN1

Case No.: 36520 Site: Omega Chem OU2

Lab: Shealy Environmental Services, Inc. Reviewer: Kendra DeSantolo, ESAT/LDC Date: 09/14/07

QUALIFIED DATA Concentration in ug/L

Analysis Type:

Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CP3			Y3CP4			Y3CP5			Y3CP6			Y3CP7			Y3CP8		
Sample ID :	Y3CP3			Y3CP4			Y3CP5			Y3CP6		FB	Y3CP7			Y3CP8		
Collection Date:	7/20/2007			7/20/2007			7/20/2007		,	7/20/2007		-	7/23/2007			7/23/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	ζal	Com	Result	۸al	Com	Result	Val	Con
Dichlorodifluoromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.500	The second secon	and Committee of the Co
Chloromethane	0.50U	idiği H		0.500			0.50U			0.50U		20) 20)	0.50U	100		0.500	951111 57:3315 58:1111	de set Set a
Vinyl chloride	0.50U			0.50U			0.500			0.50U			0.50U			0.50U		
Bromomethane 600 mm m	0.50U			0.50U			0.500			0.500			0.50U		d (1761) 1101	0.50U	3511	
Chloroethane	0.500			0.500			0.50U			0.50U			0.500			0.50U		
Trichlorofluoromethane	0.500		L W	0.50U	1961) 1961) 1824)		13			0.50U	(6) (6) (6)		0.50U	11) i i i Hili i i		2.1		ll lis
1,1-Dichloroethene	0.500	7	ပ	0.500	r	ပ	14			0.50U	7	ပ	0.50U	-	ပ	1.2		
1,1,2-Trichloro-1,2,2-trifluoroethane	0.42L	7	æ	0.39L	7	8	19		ტ	0.500		HUL	0.500		i dina	4.7		144 1680
Acetone	5.00	ے `	۵	5.00	7	Ω	5.00	7	۵	9.0U	7	۵	5.0U	7	Ω	5.00	7	۵
Carbon Disulfide	0.500			0.50			0.50U			0.500	ellii L		0.50U	1111 1111		0.500	5,423	
Methyl acetate	0.500		The second second	0.50U			0.500			0.50U			0.500			0.500		
Methylene chloride	0.50U	7	0	0.50U	P	ပ	0.500	7	O	0.500	<del>ر</del>	ပ	0.50	7	ပ	0.500	7	ပ
trans-1,2-Dichloroethene	0.500			0.50U			0.500			0.50U			0.500			0.500		
Methyl tert-butyl ether	0.500			0.500	und Pari		0.25	<b>ب</b>	В	0.500			0.50U			0.500	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	167
1,1-Dichloroethane	0.500			0.500			0.500			0.50U			0.500			0.500		
cis-1,2-Dichloroethene	0.50U			0.064L	7	В	1.6	<b>-</b> ,	ш	0.50			0.093L	- -	В	0.500	511111 Halling	eninelli Selle Selle
2-Butanone	5.00			5.0∪			5.00			5.0U			5.0U			5.0U		
Bromochloromethane	0.500			0.50U			0.500	2200 2000		0.500			0.50U			0.500		
Chloroform	0.500	7	ပ	0.500	7	ပ	0.910	7	ပ	0.500			0.50U	_	ပ	0.500	ſ	ပ
1,1,1-Trichloroethane	0.50Ú		LLEI1	0.50U			0.500		is/se	0.500	e de		0.50U			0.500		
Cyclohexane	0.500			0.500			0.500			0.500			0.50U			0.50U		
Carbon tetrachloride	0.50U			0.500		i di la	0.500	lilla HER		0.500			0.500		Tyl i	0.500	11 - 11 11 - 11	
Benzene	0.50U			0.500			0.500			0.500			0.500			0.500		
1,2-Dichloroethane	0.500			0.500			0.50U	didi Glidi		0.50U			0.50U	#0 II		0.500	N (M.)	
1,4-Dioxane	200	œ	4	20U	œ	∢	20U	<u>«</u>	< <	20U	œ	∢	20U	œ	∢ ً	. 20U	œ	∢
Trichloroethene	0.82	HIII		1.2			43		9	0.50U			1.2			18		ika.

Case No.: 36520 Site: Omega Chem OU2 SDG No.: Y3CN1

Lab: Sheaty Environmental Services, Inc. Reviewer: Kendra DeSantolo, ESAT/LDC

Date: 09/14/07

QUALIFIED DATA

for Trace Volatiles Trace Level Water Samples

Concentration in ug/L Analysis Type:

											I				
Station Location :	Y3CP3		Y3CP4		Y3CP5			Y3CP6		Y3CP7			Y3CP8		
Sample ID :	Y3CP3		Y3CP4		Y3CP5			Y3CP6	FB	Y3CP7			Y3CP8		
Collection Date :	7/20/2007		7/20/2007		7/20/2007	Ī		7/20/2007		7/23/2007			7/23/2007		
Dilution Factor:	1.0		1.0		1.0			1.0		1.0			1.0		
Trace Volatiles	Result V	Val Com	Result	Val Com	n Result	Val	Com	Result	Val Com	Result	Val	Com	Result	Val	Com
Methylcyclohexane	0.50U		0.50∪		0.50U		•	0.50∪		0.50∪			0.50U		
1,2-Dichloropropane	0.50U		0.50U		0.50U		1500	0.50U		0.50U			0.50U		
Bromodichloromethane	0.50U		0.50∪	-	0.50U			0.50∪		0.50U			0.50U	·	
cis-1,3-Dichloropropene	0.50U	101416 111410 111440 111440	0.50U		0.50U	ana Alfr	inici Igalia	0.50U		0.50U	olig CA		0.50U		100
4-Methyl-2-pentanone	5.0U		5.0U		5.0U	-		5.00	-	5.0U			5.0U		
Toluene	0.50U		0.50∪		0.50U			0.50∪		0.50U			0.50U	olic He	d de
trans-1,3-Dichloropropene	0.50U		0.50∪		0.50U			0.50U		0.50U			0.50U		
1,1,2-Trichloroethane	0.50U	Projection of the control of the con	0.50U		0.58			0.50U		0.50U		idii Uhi	0.50U		lati man
Tetrachloroethene	3.0		9.0		43		G	0.50U		0.38L	ر	Φ	5.5		
2-Hexanone	5.00		5.00		5.00	(19	erana Polara Maria	5,00		5.00		01/00 41/06	5.0U		65.8
Dibromochloromethane	0.50U		0.50U	-	0.50U			0.50U		0.50U			0.50U		
1,2-Dibromoethane	0.50U		0.50U		0.50U		0000	0.50U		0.50U			0.50U	2.0	je.
Chlorobenzene	0.50U		0.50∪		0.50U			0.50∪		0.50U			0.50U		
Ethylbenzene	0.50U	odiji Miliji Miliji Miliji	0.50∪		0.50U			= 0.50U		0.50U	HVA H		0.50U		il set:
o-Xylene	0.50U		0.50∪	-	0.50U			0.50∪		0.50U			0.50∪		
m,p-Xylene	0.50U		0:50∪		0.500			0.50U		0.50U			0.50U		40 P F F F
Styrene	0.50U		0.50∪		0.50U			0.50∪		0.50U			0.50∪		
Bromoform	0.50U		0.50∪		0.50U	uig Mili		0.50∪		0.50U		lhi i	0.50U		15.
Isopropylbenzene	0.50U		0.50∪		0.50U			0.50∪		0.50∪			0.50U		,
1,1,2,2-Tetrachloroethane	0.50U	(185) (198) (196)	0.50Ù		0.500	120		0.50∪		0.50U	ilija urs		0.50∪		HIII
1,3-Dichlorobenzene	0.50U	-	0.50∪		0.50U		/	0.50U		0.50U			0.50U		
1,4-Dichlorobenzene	0.50U		0.50U		0.500	36; Milit		0.50∪		0.50U			0.50U		Sist
1,2-Dichlorobenzene	0.50∪		0.50∪		0.50U			0.50U		0.50∪			0.50∪		
1,2-Dibromo-3-chloropropane	0.50U		0.50U	nicht minie Liebe	0.50U		12 12 (1)	0.50∪	inito de la dalid de la	0.50U			0.50U		
1,2,4-Trichlorobenzene	0.50U		0.50U		0.50U			0.50∪	NA CHARLES THE THE TAX AND THE	0.50∪			0.50U		
1,2,3-Trichlorobenzene	0.50U		0.50∪		0.50U	88		0.50∪		0.50U			0.50U		

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter. CRQL - Contract Required Quantitation Limit

NA - Not Analyzed N/A - Not Applicable

D1, D2, etc. - Field Duplicate Pairs FB - Field Blank, EB - Equipment Blank,

TB - Trip Blank, BG - Background Sample

# ANALYTICAL RESULTS Table 1A

SDG No.: Y3CN1

Case No.: 36520 SDG No.: Y
Site: Omega Chem OU2
Lab: Shealy Environmental Services, Inc.
Reviewer: Kendra DeSantolo, ESAT/LDC
Date: 09/14/07

QUALIFIED DATA Concentration in ug/L

Analysis Type:

Trace Level Water Samples for Trace Volatiles

												ŀ			ľ		l	
Station Location :	Y3CP9			Y3CQ0		_	Method Blank	Ž		Method Blank	ž		Method Blank	폿		Method Blank	~	
Sample ID:	Y3CP9	_	G	Y3CQ0	_	<u>ر</u>	VBLK1D			VBLK24		<u> </u>	VBLK25		_	VBLK26		
Collection Date :	7/23/2007			7/23/2007											-			
Dilution Factor :	1.0			1.0			1:0			1.0			1.0			1.0		
Trace Volatiles	Result	Val	Com	Result	Val	Com F	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Dichlorodifluoromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.500		C WOOD AND A COLUMN
Chloromethane	0.500			0.500	100	gen Giji	0.500			0.500			0.500	11191		0.500		
Vinyl chloride	0.50U			0.500			0.50U			0.50U			0.50U			0.500		,
Bromomethane	0.50U	- di	elili elili elili	0.50U	diji Uliji		0.500	enggji Marija	ulle Isali	0.500			0.500	117	26 Pl	0.50U		
Chloroethane	0.50U			0.50U			0.500			0.50U			0.500	- 1		0.50U	- Constitution of the cons	O TOWNS OF THE PERSON OF THE P
Trichlorofluoromethane	0.061	5	m	JZZ0.0	ſ	В	0.50U			0.50U	artali dise		0.500	One of This III		0.500	1279) 	
1,1-Dichloroethene	1.8			1.9			0.072L	ſ	В	0.079L	7	ъ	0.072L	r	മ	0.062L	٦	В
1,1,2-Trichloro-1,2,2-trifluoroethane	- 0.22L	P	В	0.25L	7	В	0.50U			0.50U			0.50U	e de la		0.500	1445 3	
Acetone	5.00	7	۵	5.0U	7	۵	5.00	7	Ω	5.00	٦,	۵	5.00	7	۵	5.0U	٦	۵
Carbon Disulfide	0.50U		enni List	0.50U			0.50U			0.50U			0.500		elia i	0.50U		
Methyl acetate	0.500			0.500			0.50U			0.50U			0.500			0.50U	100 mm	
Methylene chloride	0.50	7	v	0.50U	J	O	0.17L	7	В	0.21		В	0.14L	اد	В	0.15L	,	В
trans-1,2-Dichloroethene	0.50U			0.500			0.500			0.500	-		0.500		The state of the s	0.50U		COMPANY OF THE
Methyl tert-butyl ether	0.500			0.500		Selai Militia	0.500		election of the control of the contr	0.500	ind Mei	41,31	0.50U	i de Sala Napa		0.500		
1,1-Dichloroethane	0.50U			0.500			0.50U			0.500			0.500			0.50U		
cis-1,2-Dichloroethene	0.48	P	В	0.51		414 214	0.50U	211		0.50U			0.500			0.500		iikā
2-Butanone	5.00			5.00			5.00			5.00			2.0∪			2.0∪		
Bromochloromethane	0.50U	eli,		0.500	andi mak	199   199	0.50U			0.50U	1918) 2018)	420 2300	0.500			0.50U	(e) #4-1	(48) (6)
Chloroform	6.4			6.0			0.052L	٦	М	0.500			0.50U			0.500		
1,1,1-Trichloroethane	0.50U	idit		0.50U			0.50U			0.500		inico Englio Trace	0.50		tulii	0.500	Ular Part	
Cyclohexane	0.500			0.50U			0.500			0.500		2	0.50U			0.500		- Land Company
Carbon tetrachloride	0.50	ZSIN		0.50U			0.500		r II	0.500			0.50U			0.500		
Benzene	0.50U			0.50U			0.500			0.50U			0.50U			0.500		
1,2-Dichloroethane	0.500			0.500	pere		0.500	i i		0.500	1111		0.50U			0.50U	assin Milili	
1,4-Dioxane	200	œ	∢	20U	ď	٨	20U	œ	٨	20U	œ	V	20N	ድ	∢.	20C	м	<b>A</b>
Trichloroethene	1.2			1.2			0.50U		llis	0.50U		ere.	0.50U		100	0.500		## 

Case No.: 36520

SDG No.: Y3CN1

Site: Omega Chem OU2

Lab: Shealy Environmental Services, Inc. Reviewer: Kendra DeSantolo, ESAT/LDC

Date: 09/14/07

Concentration in ug/L QUALIFIED DATA

Analysis Type:

Trace Level Water Samples

for Trace Volatiles

	1000		┨			l			l			l						
Station Location :	Y3CP9			Y3CQ0			Method Blank	lank		Method Blank	lank		Method Blank	ank		Method Blank	긎	
Sample ID :	Y3CP9	<u> </u>		Y3CQ0		9	VBLK1D			VBLK24			VBLK25			VBLK26		
Collection Date :	7/23/2007			7/23/2007														
Dilution Factor:	1.0		L	1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	Result	.Val C	Com F	Result	۷al	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Methylcyclohexane	0.500			0.50U			0.50U	_		0.50U			0.50U			0.50U		
1,2-Dichloropropane	0.50U			0.50U		lliilii Sassa	0.50U	non Pid		-0.50∪			0.50∪			0.50U		
Bromodichloromethane	1.0			0.90			0.50U		A DESCRIPTION OF THE PERSON OF	0.50U			0.50U			0.50U		
cis-1,3-Dichloropropene	0.50U			0.50U	23/11	24() 124	0.50U			0.500		est i	0.50U			0.50U		100 100 100 100 100 100 100 100 100 100
4-Methyl-2-pentanone	5.0U			5.0U			5.0U	_		5.0U			5.0U			5.00		
Toluene	0.50U	peg)		0.50U			0.50U	in Thi		0.50U			0.50U			0.50∪		
trans-1,3-Dichloropropene	0.50U			0.50U			0.50U	_		0.50U			0.500			0.50∪		
1,1,2-Trichloroethane	0.50U		, de la composition della comp	0.50U		i i i i i I i i i i	0.50U			0.50U	19003		0.50∪	itilija 1915 ž		0.50U		(ml/c
Tetrachloroethene	5.6			6.1			0.500	_		0.50U			0.50∪			0.50U		
2-Hexanone	5.00	india.		5.00			5.00			5.00	Julia Mais		5.00	e 90	10015 10010 10010	5.00		
Dibromochloromethane	0.33L	د	В	0.31L	J	В.	0.50U	_		0.50U			0.50∪	•		0.50U		
1,2-Dibromoethane	0.50U	and er		0.50U			0.50∪			0.50U	AIR Hill	A15	0.50∪		idili Mili	0.50∪	NG GG	i i i i i i i i i i i i i i i i i i i
Chlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			. 0.50∪		
Ethylbenzene	0.50U	10000 1377)		0.50U		inilia Jirini	0.50U			0.50U	eriji	u je	0.50∪		ljeseri Prejs	0.50U		
o-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
m,p-Xylene	0.50U			0.50U			0.50U			0.50U		delit	0.500	isig ushi		0.50∪		
Styrene	0.50U			0.50U			0.500	_		0.50U			0.50U			0.50∪		
Bromoform	0.50U			0.50U			0.50U			0.50U	10171PE		0.50U	idi. Ma		0.50∪		1 KW 17 10 01 1
Isopropylbenzene	0.50U			0.50∪			0.50U			0.50U			0.50∪			0.50∪		
1,1,2,2-Tetrachloroethane	0.50U			0.50U		ilian Ser	0.50U			0.50U	111111 111111	71.0	0.50∪			0.50∪	da Leb	
1,3-Dichlorobenzene	0.50U			0.50U			0.50U	_		0.50U			-0.50∪			0.50U		
1,4-Dichlorobenzene	0.50U			0.50U	11111 		0.50U		100 100	0.50∪	Mary of		0.500			0.50∪	dh.	Silvini Printi Prisi
1,2-Dichlorobenzene	0.50U			0.50U	`		0.50U	_		0.50U			0.50∪			0.50∪		
1,2-Dibromo-3-chloropropane	0.50U	(Sec.)		0.50U			0.50U	<u>-</u>	0	0.50U			0.500	er Hall		0.50U		
1,2,4-Trichlorobenzene	0.50U			0.50U			0.500			0.50U			0.50U			0.50U		
1,2,3-Frichlorobenzene	0.50U	1111		0.50U			0.50U			0.500		597 <u>7</u>	0.50U	1111		0.50U		

Val - Validity. Refer to Data Qualifiers in Table 1B.

N/A - Not Applicable

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter. CRQL - Contract Required Quantitation Limit

NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

SDG No.: Y3CN1

Case No.: 36520

Site: Omega Chem OU2

Lab: Shealy Environmental Services, Inc. Reviewer: Kendra DeSantolo, ESAT/LDC

Date: 09/14/07

QUALIFIED DATA

Concentration in ug/L

Analysis Type:

Trace Level Water Samples for Trace Volatiles

Other Contract	A A LA			Clare Care Co.														
Station Location :	Method Blank			Storage blank	¥	-												
Sample ID:	VBLK2X			VHBLK32			CRQL											
Collection Date :																		
Dilution Factor :	1.0			1.0														
Trace Volatiles	Result	Val	Com	Result	Val	Com	Result	Val	Com							Result	Val	Com
Dichlorodifluoromethane	0.50U			0.500			0.50	-										
Chloromethane	0.500	Bakar Salah	27	0.500			0.50					llige Mige	áldií Titl			100		
Vinyl chloride	0.500			0.50U			0.50											
Bromomethane	0.500			0.50U		201	0.50		15.3								200	4.33
Chloroethane	0.50U			0.500			0.50								:			
richlorofluoromethane	0.500		ilisti gjen	0.50U		111	0.50				Litt	iaka Web	200 200			idhi idhi iden		
1,1-Dichloroethene	0.083L	7	В	0.50U	J	ပ	0.50				-							
,1,2-Trichloro-1,2,2-trifluoroethane	0.500		404	0.50U	4111		0.50						enil Ulti	946 11-7	11 (1 144) 144)		orași Militari Tiri	
Acetone	5.0U	7	Δ	5.0U	7	۵	5.0											
Carbon Disulfide	0.500	olar m	g au	0.50U	ñ,		0.50	9977	414		1079 2011		(1) (U)				64) 1476 2016	
Methyl acetate	0.50U			0.500			0.50											
Methylene chloride	0.18L	٠,	ш	0.68U	,	ပ	0.50								Mil			
trans-1,2-Dichloroethene	0.50U			0.500			0.50											
Methyl tert-butyl ether	0.50U		100	0.50U			0.50	4						100 100				::453 :1600
1,1-Dichloroethane	0.50U			0.50U			0.50				_	-						
cis-1,2-Dichloroethene	0.500	uisi uita		0.50U		ша	0.50				100							South
2-Butanone	5.00			5.00			5.0											
Bromochloromethane	0.500	eri in Frigin		0.50U			0.50				állí	e Store	l Gar	JHT				
Chloroform	0.500			0.54			0.50									-		
1,1,1-Trichloroethane	0.500	(EE		0.500		ijai į	0.50				is.h	i jak						
Cyclohexane	0.500	AL .		0.50U			0.50											
Carbon tetrachloride	0.500			0.500*			0.50	ille M	nek									(3)(1) (2)(1) (3)(1)(1)
Benzene	0.500	-		0.50U		-	0.50											
1,2-Dichloroethane	0.500	es per s		0.50U			0.50		liikis Lees		11.55		i bili E bij	體			enci Desi	aller)
1,4-Dioxane	200	œ	Α.	20U	œ	A	20			The second secon								
Tricklescothone	0.5011			0.501		elli T	0.50		io io				0.00	78) 1111			E STATE	

Case No.: 36520 Site: Omega Chem OU2

SDG No.: Y3CN1

Lab: Shealy Environmental Services, Inc. Reviewer: Kendra DeSantolo, ESAT/LDC Date: 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type:

Trace Level Water Samples for Trace Volatiles

1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2-Dibromo-3-chloropropane	1,2-Dichlorobenzene	1,4-Dichlorobenzene	1,3-Dichlorobenzene	1,1,2,2-Tetrachloroethane	Isopropylbenzene	Bromoform	Styrene	m,p-Xylene	o-Xylene	Ethylbenzene	Chlorobenzene	1,2-Dibromoethane	Dibromochloromethane	2-Hexanone	Tetrachloroethene	1,1,2-Trichloroethane	trans-1,3-Dichloropropene	Toluene	4-Methyl-2-pentanone	cis-1,3-Dichloropropene	Bromodichloromethane	1,2-Dichloropropane	Methylcyclohexane	Trace Volatiles	Dilution Factor :	Collection Date :	Station Location : Sample ID :
0.50U	0.50∪	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U	0.50∪	0.50U	0.50∪	0.50U	0.50U	0.50U	5.0U	0.50U	0.50U	0.50U	0.50U	5.0U	0.50U	0.50U	0.50U	U05.0	Result	1.0		Method Blank VBLK2X
		1633		nari		11.95				Size.				1120								arid		lini		Val Com			
0.50U	0.50∪	0.50U	0.50U	0.500	0.50U	0.500	0.50U	0.500	0.50∪	0.500	0.50U	0.500	0.50U	0.50U	0.50U	5.00	0.50U	0.50∪	0.060L	0.50U	5.00	0.50U	0.50U	0.500	0.50U	n Result	1.0		Storage Blank VHBLK32
		J	-									51212 15131 15131 16161		ista Silit	-				ر B							Val Com			nk
0,50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	5.0	0.50	0.50		0.50	5.0	0.50	0.50	0.50	0.50	m Result			CRQL
	-					(1995) (1995) (1995)						aftal Allia Sales														Val			2°
esant. Participant		alli Siyili Tarir		aeta; 35-3 1111 1411												111211 1111111 27224		jace lient								Com			
		illari		1215 - 141				(2011) 1925)		ilinis Chim												16) 1606							
1016						ilia.					-	ele e	•								-	(100)		de la			٠		
			****		-																	andra Sang Sang						·	
													-																
diff.		run di S														tal)										Result			
		ě.		sijisi Julij			_	Parision Parisi		FISI																Val			
5.						day.		aliini Tabbia																		Com			

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter. CRQL - Contract Required Quantitation Limit N/A - Not Applicable

NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

# TABLE 1B

# DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," January 2005.

- U The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.
- L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
- J The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).
- NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
- R The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

# Table 2 Calibration Summary

Case No.: 36520 SDG No.: Y3CN1

Site: Omega Chem OU2

Laboratory: Shealy Environmental Services, Inc. Reviewer: Kendra DeSantolo, ESAT/LDC

Date: September 13, 2007

# RELATIVE RESPONSE FACTORS

Analysis date: Analysis time: GC/MS I.D.: Analyte	RRF 7/23/07 13:48- MSD9 Init.	RRF 7/24/07 05:47 MSD9 Cont.	RRF 7/24/07 17:28 MSD9 Cont.	RRF 7/24/07 23:51 MSD9 Cont. 0.049	
Acetone 1,4-Dioxane	0.049 0.0009	0.048	0.048 0.0009	0.049	
1,4-Dioxane-d8	0.0007	0.0006	0.0007	0.0006	
Analysis date: Analysis time: GC/MS I.D.: Analyte Acetone 1,4-Dioxane 1,2-dibromo-3-chloropropane	RRF 7/25/07 06:21 MSD9 Cont. 0.048 0.0007	RRF 7/26/07 06:07 MSD9 Cont.  0.0010	RRF 7/26/07 17:35 MSD9 Cont.  0.0009	RRF 7/27/07 06:24 MSD9 Cont.  0.0009	RRF 7/27/07 17:34 MSD9 Cont. 0.049 0.0008 0.046
1,4-Dioxane-d8	0.0005	0.0007	0.0006	0.0006	0.0006

# ASSOCIATED SAMPLES AND METHOD BLANKS

Initial 07/2307: All samples, method blanks, and storage blank VHBLK32

Cont., 07/24/07 (05:47): Y3CN5 and VBLK24

Cont., 07/24/07 (17:28): Closing standard for Y3CN5 and VBLK24, opening standard for

Y3CN6, Y3CN7, Y3CP0 through Y3CP4, Y3CP7 through Y3CQ0 and

VBLK2X

Cont., 07/24/07 (23:51): Closing standard for Y3CN6, Y3CN7, Y3CP0 through Y3CP4, Y3CP7

through Y3CQ0 and VBLK2X

Cont., 07/25/07 (06:21): Y3CN1 through Y3CN3, Y3CN8, Y3CP5, Y3CP6, and VBLK25

Cont., 07/26/07 (06:07): Y3CN1DL, Y3CN2DL, Y3CN3DL, Y3CN2DL2, Y3CN4, Y3CN4DL,

Y3CN8DL, Y3CN9, Y3CN9DL, and VBLK26

Cont., 07/26/07 (17:36): Closing standard for Y3CN1DL, Y3CN2DL, Y3CN3DL, Y3CN2DL2,

Y3CN4, Y3CN4DL, Y3CN8DL, Y3CN9, Y3CN9DL, and VBLK26

Cont., 07/27/07 (06:24): Y3CP5DL; storage blank VHBLK32; and VBLK1D Cont., 07/27/07 (17:34): Y3CP5DL; storage blank VHBLK32; and VBLK1D

YOCH YACKI 36520 Case No: SDG No: DAS No: USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

	. ·	_					int.							341-365	γ.
19CN		EPW05031	-				FOR LAB USE ONLY Sample Condition On Receipt	9,4					<del>)</del>	ORIGINAL DOCUMENTS INCLUDED IN CSF 12	Signature
(307	For Lab Use Only	Lab Contract No:	Unit Price:	Transfer To:	Lab Contract No:	Unit Price:	INORGANIC SAMPLE No.	8:25	9:15	10:10	11:15	12:12	13.00	ORIGINAL DOCUMEN	- Arenaras
	Fo	(Date / Time)	nn	Tre	La	(7- 09m un	SAMPLE COLLECT DATE/IIME	S: 7/18/2007 8:	S: 7/18/2007	S: 7/18/2007 10	S: 7/18/2007 11	S: 7/18/2007 13	S: 7/18/2007 13		
	Sampler Signature:	1 By				(Lynn / 1/19)	STATION	Y3CN0	Y3CN1	Y3CN2	Y3CN3	Yacn4	Y3CN5		
		(Date / Time) Re	WY -16-51-7				TAGNOJ PRESERVATIVE Bottles	255 (Ice Only), 256 (Ice Only), 257 (Ice Only), 257 (Ice Only), 258 (Ice Only), 259 (HCL), 260 (HCL), 261 (HCL), 263 (HCL), 264 (HCL), 265 (HCL), 266 (HCL), 266	267 (loe Only), 268 (loe Only), 269 (HCL), 270 (HCL), 271 (HCL), 272 (HCL), (6)	273 (lee Only), 274 (lee Only), 275 (HCL), 276 (HCL), 277 (HCL), 278 (HCL), 6)	279 (Ice Only), 280 (Ice Only), 281 (HCL), 282 (HCL), 283 (HCL), 283 (HCL), 283 (HCL), 284 (HCL), 2	285 (los Only), 286 (los Only), 286 (HCL), 289 (HCL), 280 (HCC), 280 (HCL), 280 (HCL), 280 (HCL), 280 (HCL), 280 (HCL), 280 (HCC), 2	. ~. / >		
	Chain of Custody Record	Relinquished By	1-11/10		3	4	ANALYSIS/ TURNAROUND	SIM TVOA (21), SVOA (21)	SIM TVOA (21), SVOA (21)	SIM TVOA (21), SVOA (21)	SIM TVOA (21), SVOA (21).	SIM TVOA (21), SVOA (21)	SIM TVOA (21)		
	7/18/2007	FedEx	799177129103, 792380236t	106 Vantage Point Drive	(803) 791-9700		MATRIW CONCI SAMPLER TYPE	Ground Water/ L/G Robert Hernandez	Ground Water/ L/G Robert Hernandez	Ground Water/ L/G Robert Hernandez	Ground Water/ L/G Robert Hernandez	Ground Water/ M/G Robert Hernandez	Ground Water/ L/G Robert Hernandez		
	Date Shipped:	Carrier Name:	Airbill:	or padding			ORGANIC \$AMPLE No.	Y3CN0	Y30N1	Y3CN2	Y3CN3	Y3CN4	Y3CN5		

Shipment for Case	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature	Chain of Custody Seal Number:
Complete?N	436,40		Upon Receipt 4.6	UA
Analysis Key:	Concentration: L=Low, M=LowMedium, H=High	Type/Designate: Composite = C, Grab ≈ G	9	Custody Seal Intact? Shipment Iced?
SIM TVOA = CLP TCL	SIM TVOA = CLP TCL Volatiles (including SIM), SVOA = 1,4-Dioxane			
TR Number:	TR Number: 9-373659945-071807-0002	all discolory on the contraction of the contraction		A CO

TR Number: 9-373659945-071807-0002

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264 9222

F2V5.1.043 Page 1 of 1

5 of 1579

USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

36520

Case No: DAS No:

							selpt	•					
72	, ,	EPW05031					FOR LAB USE ONLY Sample Condition On Receipt	70					一
SDG NO: Y3 CN	For Lab Use Only	Lab Contract No:	Unit Price:	Transfer To:	Lab Contract No:	Unit Price:	CT INORGANIC SAMPLE No.	8:30	9.25	9:55	11:07	12:45	13:00
		(Date / Time)				0660 ts/	SAMPLE COLLECT DATE/TIME	s; 7/19/2007	s: 7/19/2007	S: 7/19/2007	S: 7/19/2007	S: 7/19/2007	s: 7/19/2007
ra	Sampler Signature;	Received By				1/2 JA 7/20	STATION LOCATION	Y3CN6	Y3CN7	Y3CNB	Y3CN9	Y3CP0	Y3CP1
*** *** Organic Traffic Report & Chain of Custody Record	44	(Date / Time) R	09/1				TAG No./ PRESERVATIVE/ Bottles	297 (Ice Only), 298 (Ice Only), 299 (HCL), 300 (HCL), 301 (HCI), 302 (HCI), (R)	303 (loc Only), 304 (loc Only), 305 (HCL), 305 (HCL), 307 (HCL), 307 (HCL), 307 (HCL), 307 (HCL), 307 (HCL), 308 (HCL), 408 (HCL), 4	309 (toe Only), 310 (toe Only), 311 (HCL), 312 (HCL), 313 (HCL), 313 (HCL), 314 (HCL), 314 (HCL), 6)	315 (loe Only), 316 (loe Only), 317 (HCL), 318 (HCL), 319 (HCL), 320 (HCL) (6)	321 (loe Only), 322 (loe Only), 323 (HCL), 324 (HCL), 325 (HCL), 325 (HCL), 326 (HCL), 6)	327 (HCL), 328 (HCL), 329 (HCL), 330 (HCL) (4)
Report & Cha	Chain of Custody Record	Relinquished By	1-18	2 S	e	4	ANALYSIS/ TURNAROUND	SIM TVOA (21), SVOA (21)	SIM TVOA (21), SVOA (21)	SIM TVOA (21), SVOA (21)	SIM TVOA (21), SVOA (21)	SIM TVOA (21), SVOA (21)	SIM TVOA (21)
affic F			177924E	rive			CONC	. L/G	97	L/G	M/G	M/G	5 1/6
Organic Tr	7/19/2007	FedEx	790294947320, 7991779248 Shealy Environmental	106 Vantage Point Drive	(803) 791-9700		MATRIX/ SAMPLER	Ground Water/ Robert Hernandez	Ground Water/ Robert Hernandez	Ground Water/ Robert Hernandez	Ground Water/ Robert Hernandez	Ground Water/ Robert Hernandez	Ground Water/ Robert Hernandez
	Date Shipped:	Carrier Name:	Airbiil:		-	-	ORGANIC SAMPLE No.	Y3CN6	Y3CN7	Y3CNB	Y3CN9	Y3CP0	Y3CP1

Shipment for Case Sample(s) to be us Complete? N					•
-	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt 4 4	Chain of Custody Seal Number:	
Analysis Key: Concentration:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	(9)	Custody Seal Intact? \ Shipment Iced?	oment Iced?
SIM TVOA = CLP TCL Volatiles (including SIM), SVOA = 1,4-Dioxane	SIM), SVOA = 1,4-Dioxane			_	/

TR Number: 9-373659945-071907-0001

TR Number: 9-373659945-071907-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9422

FZV6.1.043 Page 1 of 1

**USEPA Contract Laboratory Program** を用する

36520

Case No:

12010 Sample Condition On Receipt FOR LAB USE ONLY 1000 COS EPW0303 なっ INORGANIC SAMPLE No. For Lab Use Only Lab Contract No: Lab Contract No: Transfer To: Unit Price: Unit Price: DAS No: SDG No: 11:00 10:20 8:17 9:02 SAMPLECOLLECT DATE/TIME  $\leq$ 7/20/2007 7/20/2007 7/20/2007 7/20/2007 7/20/2007 (Date / Time) **Y3CP4** Y3CP5 Y3CP6 **УЗСРЗ** Y3CP2 OCATION. STATION Signature: Received By Sampler Organic Traffic Report & Chain of Custody Record Only), 351 (HCL), 352 (HCL), Only), 339 (HCL), 340 (HCL), Only), 333 (HCL), 334 (HCL), Only), 345 (HCL), 346 (HCL) 361 (HCL), 362 (HCL), 363 353 (HCL), 354 (HCL) (6) 335 (HCL), 336 (HCL) (6) 347 (HCL), 348 (HCL) (6) 341 (HCL), 342 (HCL) (6) 343 (Ice Only), 344 (Ice 349 (Ice Only), 350 (Ice PRESERVATIVE Bottles 331 (Ice Only), 332 (Ice 337 (Ice Only), 338 (Ice (HCL), 364 (HCL) (4) 120 (Date / Time) 10PL Chain of Custody Record SIM TVOA (21), SVOA (21) SIM TVOA (21), SVOA (21) SIM TVOA (21), SVOA (21) B SIM TVOA (21) ANALYSIS/ TURNAROUND SIM TVOA (21) SVOA (21) Relinquished By ო 2 9 CONC 9 2 106 Vantage Point Drive Shealy Environmental Robert Hernandez Robert Hernandez Robert Hernandez Robert Hernandez Ground Water/ Robert Hernandez Ground Water/ Cayce SC 29033 (803) 791-9700 Ground Water/ Ground Water/ Ground Water/ 791726191401 MATRIXI SAMPLER 7/20/2007 FedEx ORGANIC SAMPLE No. Date Shipped: Carrier Name: Shipped to: Y3CP6 **Y3CP5** Y3CP4 Y3CP2 **Y3CP3** Alrbill:

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt	Chain of Custody Seal Number: / 人人
Analysis Key	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	O	Custody Seal Intact? Y Shipment Iced?
SIM TVOA = CLP TC	SIM TVOA = CLP TCL Volatiles (including SIM), SVOA = 1,4-Dioxane			
TR Number:	9-373659945-072007-0001	1.45 on 1.45 o		ACO XIOLWHORK

F2V5.1. 043 Page 1 of 1

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222 7 of 1,579

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Shealy Environmental Services, Inc.
Contract Number: EPW05031
Date: 08/06/2007 Revision Date: 09/10/07

# **SDG Narrative**

Case 36520 SDG Y3CN1

FPA Sample Numbers

EPA Sample Number	TVOA Fraction	Dilution/ Reanalysis	TVOA SIM Fraction	Dilution/ Reanalysis	BNA SIM Fraction	Dilution/ Reanalysis	Aqueous VOA Sample pH Value
Y3CN1	Yes	Yes	Yes	No	Yes	No	<2
Y2CN2	Yes	Yes	Yes	No	Yes	No	<2
Y3CN3	Yes	Yes	Yes	No	Yes	No	<2
Y3CN4	Yes	Yes	Yes	Yes	Yes	No	<2
Y3CN5	Yes	No	Yes	No	No	No	<2
Y3CN6	Yes	Yes	Yes	No	Yes	No	<2
Y3CN7	Yes	Yes	Yes	No	Yes	No	<2
Y3CN8	Yes	Yes	Yes	No	Yes	No	<2
Y3CN9	Yes	Yes	Yes	No	Yes	No	<2
Y3CP0	Yes	Yes	Yes	No	Yes	No	<2
Y3CP1	Yes	Yes	Yes	No	No	No	<2
Y3CP2	Yes	Yes	Yes	No	Yes	No	<2
Y3CP3	Yes	Yes	Yes	No	Yes	No	<2
Y3CP4	Yes	Yes	Yes	No	Yes	No	<2
Y3CP5	Yes	Yes	Yes	No	Yes	No	<2
Y3CP6	Yes	No	Yes	No	No	No	<2
Y3CP7	Yes	Yes	Yes	No	Yes	No	<2
Y3CP8	Yes	Yes	Yes	No	Yes	No	<2
Y3CP9	Yes	Yes	Yes	No	Yes	No	<2
Y3CQ0	Yes	No	Yes	. No	Yes	No	<2

Columns	TVOA DB-624, 30m x 0.25mm x 1.4um
Columns	BNA DB-5.625ms, 20m x 0.18mm x 0.36um
Trap	OI Trap #10
VOA Equation	(Ax)(Is)(DF)
	Water sample concentration (ug/L) = $\overline{(A_{is})(\overline{RRF})(V_0)}$
	Where  Ax is the area of the characteristic ion (EICP) for the compound to be measured.  Ais is the area of the characteristic ion (EICP) for the internal standard.  Is is the amount of internal standard added, in ng.
	RRF is the mean relative response factor from the initial calibration.  DF is the dilution factor.
	Vo is total volume of water purged, in mL.

BNA Equation	$(A_x)(I_s)(V_t)(DF)(GPC)$
	Water sample concentration ug/L = $(A_{is})(\overline{RRF})(V_o)(V_i)$
	Where
	Ax is the area of the characteristic ion (EICP) for the compound to be measured.
	Ais is the area of the characteristic ion (EICP) for the internal standard.
	Is is the amount of internal standard added, in ng.
	RRF is the mean relative response factor from the initial calibration.
	DF is the dilution factor.
	GPC = Vin/Vout : GPC factor.
	Vin is the volume of extract loaded onto GPC column.
	Vout is the volume of extract collected after GPC cleanup.
	Vt is volume of the concentrated extract in uL. (If no GPC cleanup is performed, then
	Vt = 1000uL. If GPC cleanup is performed, then Vt = Vout.).
	Vi is the volume of the extract injected in uL.
	Vo: Volume of water extracted in mL

# Sample Receiving

The cooler temperatures associated with these samples were 5.3, 4.6, 4.4, 3.8, 4.6, 3.7, and 4.7°C.

The TR/CoC listed the samples as having a 21 day turn around time. Per the scheduling notification the samples were requested by SMO for 14 day turn and were processed by the lab in this manner.

## **TVOA Fraction**

The peak eluting at ~5.78min on MSD9 in all analyses is pentafluorobenzene. This is an internal standard compound that is not being used for quantitation. This compound is not being identified as a TIC.

Manual integration was performed on 1,4-dioxane and/or 1,4-dioxane-d8 for some standards due to incorrect auto integration.

Manual integration was performed on toluene-d8 for standard VSTD00123 due to incorrect auto integration.

Manual integration was performed on 1,4-dioxane for sample Y3CN4 due to incorrect auto integration.

Samples Y3CN4 and Y3CN9 were only analyzed at dilutions of 2x or greater due to multiple compounds detected over the calibration range.

The ending CCV for MSD 9 on 07/25/07 was not analyzed due to an instrument malfunction. There was insufficient sample volume remaining to perform another analysis.

The CCV VSTD0052B passed both opening and closing criteria. Therefore, data collection continued without analyzing a new tune standard.

The Internal Standard area in sample Y3CN4DL is outside of limits. The sample was not re-analyzed due to insufficient sample volume remaining.

All surrogates did not pass acceptance limits in the blank, VBLK2X run on 07/24/07. The associated samples were re-analyzed the next day and both sets of data are included.

The internal standard recoveries for sample Y3CN4DL (50-fold dilution) were high and outside the acceptance limits. It was probably due to a one-time instrument malfunction that extra volume of the internal standard spiking solution was added during the analysis. This extra amount of internal standard caused the large discrepancies

between the 5 (reported as Y3CN4) and 50-fold dilution analyses. Total of 4 vials were received for sample Y3CN4. One was used for screening; two were used for the TVSIM analysis. The last one was used for the 5 and 50-fold dilutions. There was insufficient volume of sample to perform another 50-fold dilution.

### **TVOA SIM Fraction**

Manual integration was performed on 1,4-dioxane for samples Y3CP0, Y3CP5, Y3CP9, Y3CN5, Y3CN6, Y3CN7, Y3CN9, and blanks VBLK25, VBLK26, VBLK31, VHBLK32, VHBLK32RE due to incorrect auto integration.

Manual integration was performed on 1,4-dioxane-d8 for sample Y3CN4 due to incorrect auto integration.

Sample Y3CN4 was re-analyzed due to the possibility of carryover in the first analysis. Both sets of data are included.

The 1,4-dioxane results for samples Y3CN2 and Y3CN4 were over the calibration range however, samples could not be re-analyzed due to insufficient volume remaining.

### **BNA SIM Fraction**

None.

I certify that this Sample Data Package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the electronic data deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

for 1500

Daniel J. Wright Laboratory Director

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# 1J - FORM I VOA-TIC VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMPLE	NO.
	Y3CN4	

Lab Name: Shealy Environmental Services, Inc. Contract: EP-W-05-031	· 
Lab Code: SHEALY Case No.: 36520 Mod. Ref No.: SDG No.: Y3CN1	
Matrix: (SOIL/SED/WATER)Water Lab Sample ID: IG19018-004	
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 90726A10	
Level: (TRACE or LOW/MED) TRACE Date Received: 07/19/2007	
% Moisture: not dec Date Analyzed: 07/26/2007	
GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 5.0	
Soil Extract Volume:(uL) Soil Aliquot Volume:	(uL
CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 25.0	(mL
CAS NUMBER COMPOUND NAME RT EST. CONC.	Q
Unknown-01 2.857 4.9	JD

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1	Unknown-01	2.857	4.9	JD
2 541-05-9	Cyclotrisiloxane, hexamethyl	9.176	14	NJ DB
3 <del>556-67-2 ·</del>	- Cyclotetrasiloxane, octameth	11.566	13	NJ DB
1	• Unknown-02	<del>12.181</del>	14-	J DB
5	Unknown-03	12.312	<del>5.9</del> _	J DB
5	Unknown-04	12.560	15	J DB
7	Unknown-05	<del>12.962</del>	5.2	J D
3	- Unknown-06	15.033	3.9	<u>a</u> 0
	56, 914/07.			
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E966796 <sup>1</sup>	Total Alkanes	N/A	<del>                                     </del>	

<sup>1</sup>EPA-designated Registry Number.

# 1J - FORM I VOA-TIC VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO Y3CN9

Lab Name: Shealy E	Environmental Services, Inc.	Con	tract: EP-W	/-05-031	
Lab Code: SHEALY	Case No.: 36520	Mod. Ref No	.:	_SDG No.: Y3Ch	<b>N1</b>
Matrix: (SOIL/SE				IG20012-004	
Sample wt/vol:25	5.0 (g/mL) <u>mL</u>		File ID: 9		<del></del>
Level: (TRACE or					
	dec		Received:		
			Analyzed:		
	ID: <u>0.25</u>		tion Facto	or: <u>2.0</u>	
Soil Extract Vol	ume:	_(uL) Soil	Aliquot V	Volume:	(uL
CONCENTRATION UN	IITS:(ug/L or ug/Kg) <u>u</u>	7L Purg	ge Volume:2	25.0	(mL
CAS NUMBER	COMPOUND NAME		RT	EST. CONC.	Q
01	Unknown-01		2.869	5.4	JD
02 511 05 9	<u> Cyclotrisiloxane</u>		9.176	7.0	NJ DB
03 <del>-556-67-2-</del> 04	Cyclotetrasiloxa	ne, octameth	11.566	6.4	NJ DB
05	Unknown 02		12.181	5.6	J DB
06	Unknown-03		12.311		J DB
07	Unknown-05		12.560	7.0	J DB
0.8	Oliverio Wil O.S.	-	12.962	2.7	J D
0.9	<	9/4/07			
1.0		<del></del>			
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L2					
.3				1	
.4		- <del></del>			
.6					
7					
.8					
.9					
0					
1					
2					
3					
4					
5					
6					
7 8					
9					
0					
E966796 <sup>1</sup>	Total Allege				
1777	Total Alkanes		N/A	.	

<sup>1</sup>EPA-designated Registry Number.